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Livestock, Dairy, and Poultry Outlook

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United States Bans Imports of Canadian Ruminant Animals and Products

The recent discovery of bovine spongiform encephalopathy (BSE) in Canada resulted in the United States placing a ban on imports of ruminant animals and products from that country as of May 20. Due to the uncertainties as to the length of the ban, the impact of BSE in this report is limited to impacts of the ban through June 11.

Already tight red meat and poultry supply conditions were exacerbated in May and early June as the cessation of imports of Canadian beef and fed cattle for immediate slaughter further tightened the supply situation. Boxed beef prices moved to record levels in late May through early June, and demand remained strong for the tighter supply, particularly higher quality beef.

Higher beef and cattle prices have encouraged earlier marketing of cattle from feedlots, and thus, increased cattle slaughter in the second quarter. Beef prices were already strong as cattle were marketed at lighter weights from poor feeding conditions last winter. Dressed weights are expected to average well below last year in the second quarter.

Milk production, pounded by low milk prices, has slowed considerably. However, the easing in production is owed more to very weak growth in milk per cow than to a turnaround in milk cow numbers. A likely recovery in milk per cow probably will offset some of the projected loss of milk cow numbers in coming months. Lack of significant recovery in wholesale prices will leave farm milk prices low during the rest of 2003, even though second-half prices are expected to average near a year earlier. For the year, farm milk prices are projected to average \$0.50 to \$1 per hundredweight (cwt) lower than 2002 and about \$3.25 to \$3.75 lower than the 2001 record.

Hog prices are higher than earlier expected, especially in the second quarter. Price strength comes from lower pork production, seasonal price strength, and record-high retail beef prices. The *Quarterly Hogs and Pigs* report to be released on June 27, will provide further information about pork production prospects in the coming months.

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The next release is
July 17, 2003

Approved by the
World Agricultural
Outlook Board.

Strong Demand, Tight Beef Supplies Produce Record Meat Prices

Demand for beef has been very strong this year, with retail prices for Choice beef moving into record territory in February, breaking the old record of \$3.476 set in June 2001. Weather conditions deteriorated beginning with a series of storms in late February with wet cold weather continuing through mid-spring. Although slaughter weights have stayed above the low levels of 2001 they dropped rapidly early in the year and remain well below the record 2002 levels. With supplies well below expectations, beef prices began to rise sharply. Retail prices set records again in March and April (\$3.65). Already tight supply conditions worsened in May due to the discovery of bovine spongiform encephalopathy (BSE) in Canada, resulting in the United States placing a ban on imports of ruminant animals and products from Canada as of May 20. The resulting cessation of imports of Canadian beef and fed cattle for immediate slaughter further tightened the supply situation. Boxed beef prices moved to record levels in late May through early June and demand remained strong for the tighter supply, particularly higher quality beef.

Forage Conditions Remain Uncertain

While moisture conditions have improved in most regions, conditions in the West have turned hot and drier, while the eastern half of the country remains relatively wet and cool. Reservoir supplies have improved in parts of the West, but in general reservoir levels remain well below normal. Hay stocks will need to be rebuilt in most areas, but cool, wet weather in much of the eastern half of the country may sharply reduce harvest quality and quantity, particularly for grass hay. Although shrinking in the Northern Great Plains, drought areas have begun to expand again and a return to hot dry conditions would sharply reduce grazing conditions in many areas where grass stands have weakened due to prolonged or intermittent drought since 1998.

Poor Weather Conditions Producing Mixed Signals

Poor feeding conditions since late February resulted in sharply lower fed cattle slaughter weights than a year earlier. The decline was exacerbated by cattle being drawn forward to increase production. Weights reached seasonal lows in mid-April, but the rate of increase in subsequent months will be slowed as cattle are marketed out of feedlots ahead of schedule to fill the void in supply left by the unexpected ban on Canadian beef. Cattle slaughter rose with the May 20 import ban on Canadian beef. Weekly slaughter moved up 8 percent from a year earlier to 767,000 head for the week ending May 24; slaughter was 661,000 head on the shortened Memorial Day week, up nearly 5 percent; and 791,000 head the week ending June 7, up 8.5 percent from 2002 and the largest weekly slaughter for this cattle cycle—767,000 head were slaughtered in mid-1996.

Slaughter is expected to remain, large reflecting the continued strong demand for beef, but also the likely summer marketing date for the large placements of heavy weight feeder cattle into feedlots over the past couple of months. Placements of cattle on feed in March and April were up 4 and 29 percent, respectively. Not only were placements large, but weights were sharply above a year earlier, with many of the cattle fleshy coming off wheat grazeout acreage earlier than normal due to dry conditions. Many of these cattle will be marketed in mid-summer. The major problem the market continues to have is an insufficient number of higher grading cattle to meet the strong demand for better eating, more consistent quality Choice beef. Marketing ahead of schedule only worsens this situation, but prices for all beef have risen.

Cow slaughter remains high, particularly dairy cow slaughter. Through May, beef cow slaughter is up about 1 percent from a year earlier, dairy cow slaughter is up about 16 percent. Strong cattle

prices and some improvement in forage conditions for the sharply reduced beef cow inventory is likely to result in lower beef cow slaughter in the second half of the year. However, downward inventory adjustments in the dairy cow herd are likely to continue through winter 2003/04, although the year-to-year increases are likely to slow. The current cow slaughter data plus larger movements of heavier heifers through auction markets suggest little movement toward beef herd stabilization, much less expansion in 2003.

Although cow slaughter has been large, the usual mix of processing beef products available in the market has resulted in a very different price picture. Because fed cattle slaughter weights and thus feedlot finish have been sharply reduced, the supply of fat trimmings has tightened. Prices for 50 percent lean beef moved above year-earlier levels in late 2002, but prices have risen sharply since mid-winter, with prices in May averaging \$66.16 a cwt, more than double last year's \$27.84. Conversely, 90 percent lean beef has languished, with prices in May averaging \$111.02 a cwt, down from \$115.90 a year earlier. Prices for lean beef imports are selling at a sharp discount to the

domestic product, averaging \$90.43 a cwt in May, down from \$107.23 a year earlier.

Retail Prices Remain Strong, But Product Switches Likely

The rapid rise in retail beef prices and boxed beef prices to record levels in early June are strong evidence of the strong demand for beef and also the cost of fulfilling short-term commitments as Canadian beef was banned from the market. In the intermediate term, the market will attempt to shift to alternative products at more attractive prices relative to beef. With the slaughter being pulled forward this spring, beef production is likely to be about unchanged from a year earlier in the second quarter. Supplies of both pork and poultry are expected to average 1 to 2 percent below a year earlier this spring. Even so retail prices of both remain relatively more attractive than beef. However, the market for beef has been very strong and there is little evidence in live or boxed beef prices suggesting much of a slowdown in beef demand. However, the specter of larger numbers of likely heavy weight fed cattle and boxed beef coming in from Canada some time in the future weigh on the market.

Beef and Cattle Trade

Trade in beef and cattle between the United States and Canada has been disrupted by the discovery of a Canadian animal infected with BSE on May 20th. No Canadian beef or cattle have been allowed entry into the United States and most other countries since that date. Since the detection of the single case of BSE in Canada, USDA regulatory agencies have been in constant contact with their Canadian counterparts.

As it is unknown when the border will again reopen, trade estimates only reflect the absence of U.S.-Canadian trade to June 11. Monthly imports of Canadian beef and cattle average around 85,000 head and 85 million pounds, respectively, at this time of year. U.S. exports of beef and cattle to

Canada have also been reduced because of the increased supply situation in Canada. The U.S. exports about 12,000 head of cattle and nearly 20 million pounds of beef monthly at this time of year. The second largest market for Canadian beef is Mexico and the absence of this market for Canada could effect U.S. beef exports to Mexico.

Although beef imports in the second quarter were reduced because of Canada, imports from other markets are expected stronger. Imports from New Zealand were larger than expected in the first quarter, and Uruguay has been allowed to begin exporting fresh/chilled and frozen product again to the United States, and imports from Uruguay may expand in the second half of the year. Beef imports are now expected to be somewhat higher this year than earlier expected.

Production Weakening Begins

Milk production, pounded by low milk prices, has seen growth slow considerably. April output in the 20 major States was within 1 percent of a year earlier for the first time since October 2001. However, easing in milk production owed more to very weak growth in milk per cow than to a turnaround in milk cow numbers. A likely recovery in milk per cow probably will offset some of the projected loss of milk cows in coming months.

April milk cow numbers (20 States) were below first-quarter levels and only 0.5 percent above a year earlier. Cow numbers generally rose from October 2001 through March 2003. The very low returns are beginning to slow expansions by the stronger producers and may be triggering exit of weaker farms. However, the turnaround in cow numbers shows no sign of being dramatic and might even stall for a month or two before steady declines become established.

April milk cow numbers were substantially above a year earlier in California, New Mexico, and Idaho. However, increases in these typically high-growth western States had slowed since last year. This slowing was offset by some unusual strength in some Midwestern and Northeastern States. Michigan, New York, Pennsylvania, and Ohio showed increased or about unchanged cow numbers in April, reflecting a pick-up in new or greatly expanded farms and continued slow farm exit.

The addition of new capacity probably has slowed, and the recently added space probably has been mostly filled with cows. The recent and expected returns will limit interest in further expansions, and a significant share of expanders probably will buy discounted existing facilities rather than add new capacity. Much of the recent upward pressure on milk cow numbers probably has dissipated.

Exit of dairy farms reportedly has begun to pick up but clearly has yet to become common. Although recent low returns have produced considerable income stress on many operations, the high returns of earlier years probably were used for early

maintenance and capital replacement and may have left a cash reserve. In addition, payments under the Milk Income Loss Contracts (MILC) undoubtedly played a significant role, particularly for smaller farms.

Milk cow numbers are expected to slip below a year earlier this spring, before widening to about a 1-percent gap by yearend. For the year, milk cow numbers are projected to average only slightly fewer than in 2002.

Milk per cow remains quite weak. Compared with the 5-year average, milk per cow in recent months has risen at an annual rate of only 1.2-1.3 percent, far below the long-run trend of about 2 percent. Milk-feed price ratios have been at levels normally associated with below-trend gains in milk per cow but cannot fully explain the weakness. A number of other factors and adjustments appear to have affected milk per cow.

The shortage of replacement heifers disrupted normal culling practices in late 2001 and 2002. The return of more normal heifer demand this year probably has ended most of the direct effects of abnormal culling on milk per cow. Even so, the current milk cow herd probably has an unusually large share of first-calf heifers, creating a lagged weakness in average milk per cow that will persist until this bulge enters their second lactation.

Greatly mixed forage quality was typical for Midwestern and Northeast dairy farmers in 2002. By this spring, these farmers probably were faced with feeding inferior forage and suffering some loss of milk per cow or searching out relatively expensive good hay. Given the low milk prices, a significant number of dairy farmers reportedly opted for the former. In addition, some farmers may have cut back on relatively expensive concentrates such as cottonseed.

The low milk prices expected during the rest of 2003 will provide relatively little incentive to boost milk per cow through feeding. The emphasis likely will continue to be on cutting costs, even if milk per cow slips. The quality of forage in key dairy areas will be quite important. The season is off to a mixed start in most areas of the Midwest and

Northeast. Except for areas with particularly severe winter loss, hay stands are generally in good condition. However, wet weather has delayed and reduced the quality of the first cut. Late rains in California resulted in some quality problems in their early cuttings.

Milk per cow is projected to recover only slightly during the rest of 2003 and probably will stay relatively soft. Even so, increases from the weakening levels of a year earlier likely will pick up somewhat. For the year, average milk per cow is expected to rise only slightly more than 1 percent from 2002.

Increases in milk production are projected to persist through 2003 and beyond. Recovery in milk per cow is expected to mitigate the developing weakness in milk cow numbers. Total 2003 milk production is expected to rise about 1 percent, following 2002's increase of more than 2 percent.

Milk used in manufactured dairy products (on a milkfat basis) rose less than 1 percent from a year earlier in January, was virtually unchanged in February and March, and fell about 1 percent in April. Cheese has tended to have a small advantage over butter-nonfat dry milk plants in competing for the limited milk supplies, and cheese plants appeared to have had first claim on milk supplies to a possibly even greater extent than normal. However, somewhat erratic cheese sales have been reflected in uneven cheese production. Butter and nonfat dry milk output have weakened fairly steadily, going from small gains from a year earlier in January to substantial declines by April.

If fluid milk sales continue to post increases, supplies of milk for manufacturing probably will be a little tight during the rest of the year. However, supplies would need to tighten considerably more than a little to spark a significant price recovery.

Industry Stocks Heavy

Commercial stocks on May 1 remained huge, but seasonal increases have been much smaller than a year earlier. May 1 holdings were 12.7 billion pounds, milk equivalent, milkfat basis, up 1.7 billion from a year earlier. However, stocks grew

only 2.8 billion pounds between January 1 and May 1, compared with a 4-billion-pound jump during the same period of 2002. Modest slowing in milk production expansion and recovery in commercial use helped keep stocks from getting worse. However, industry adjustments to low prices have yet to start eroding the earlier stock accumulations.

Commercial stocks of skim solids were considerably more moderate. At 9.6 billion pounds, milk equivalent, skim solids basis, on May 1, stocks of skim solids were near the 2000-02 average for the date. Like milkfat inventories, holdings of skim solids grew considerably less during the first 4 months of 2003 than during the same months of 2002.

Butter stocks remain the major problem. May 1 commercial stocks were the largest ever, up a third from a year earlier. In the absence of aggressive retail specials, butter sales have been too lackluster to have much effect on inventories.

Industry stocks of cheese were large on May 1, but up only a modest seasonal amount from the start of the year. May 1 holdings were only slightly larger than a year earlier or the 2000-02 average for the date. Recent sales to the Government under the price support program have helped to trim stocks. Even so, these holdings probably were somewhat larger than necessary in light of the recent and anticipated market conditions.

May 1 manufacturers' stocks of nonfat dry milk were moderate, near the levels of the 2 preceding years. Continued large price support sales have kept commercial powder stocks from growing.

Sales Improve But Demand Still Sluggish

Dairy demand remains unsettled. Economic recovery has been uneven and not particularly strong. Consumer spending has grown, but consumers have been generally more cautious and have shifted expenditures among categories. Restaurant spending stays rather weak, a key factor for some dairy products.

Commercial use appears to be responding to the lower prices, although year-to-year changes in

sales have been erratic for most products. Market conditions during the first few months of the year were unsettled in both 2002 and 2003. Also, Easter was considerably later in 2003 than in 2002. For the first 4 months of 2003, total dairy product sales rose almost 3 percent on a milkfat basis. Commercial use of skim solids was not quite as strong but still managed an increase of almost 2 percent.

Cheese sales rose only about 1 percent from a year earlier during January-April. The restaurant slowdown has been a major effect on cheese use, particularly reflected in the lack of any growth in American cheese sales. Pizza sales reportedly have recovered a bit but are not robust. Food processor use of cheese also appears to have stayed somewhat soft. Although retail sales may have increased, these rises have been partially offset by weakness in other sectors.

Butter sales clearly were stronger this Easter than in 2002. For the first 4 months of the year, commercial disappearance rose more than 3 percent. Even so, butter demand has not recovered much in light of the very large price declines since 2001. Upscale restaurants have been particularly hurt by the downturn, and these operations use the most butter.

Commercial disappearance of nonfat dry milk has been very weak. During January-April, use fell almost a fifth from the already weak levels of a year earlier. Part of the drop was related to the ample supplies of wet solids available this year. But, use of nonfat dry milk in processed foods clearly has fallen, particularly in light of imported milk proteins being much less favorably priced this year. Many premium and high-value processed foods probably are suffering the same types of demand problems as some dairy products.

Growth in commercial use is expected to continue. Prices will remain low and demand is likely to continue its slow recovery. However, much of the sales improvement may be centered on the retail sector. Restaurant and food processing use may continue to be somewhat weak. Under these conditions, a surge in product movement does not seem likely. Commercial use is projected to rise about 2 percent on both milkfat and skim solids bases.

Butter and Cheese Surpluses Return

Net removals under the price support program have included all three products thus far in 2003, hardly surprising in light of the generally large supplies and sluggish demand. During January-May, removals of butter totaled 20 million pounds, up from none a year earlier. About two-thirds of these removals were purchases. Similarly, 37 million pounds of cheese were removed for price support, up from only 1 million in the same period of 2002. The 0.9 billion pounds, milk equivalent, milkfat basis, represented a quite small surplus even if it did loom large relative to last year's negligible level. The key difference between the 2 years was that this year's already huge commercial butter stocks could not absorb as much milkfat as a year ago.

The surplus of nonfat dry milk was actually a bit smaller in January-May, the first signs of a turnaround. Although purchases were similar to last year's, this year's differences in timing of Dairy Export Incentive Program (DEIP) contracts meant that less was exported during the first 5 months of the year. With the higher cheese removals, total removals on a milk equivalent, skim solids basis came to 5.4 billion pounds, slightly larger than a year earlier.

Seasonal tightening is expected to soon dry up butter purchases, although this may hinge on how quickly butter stocks decline this summer. Removals through DEIP will continue, although new contracts after the start of the quantity commitment year might be limited by the dollar subsidy limit that applies through September. At this stage, DEIP contracts are a more attractive way of reducing commercial stocks because they can utilize older butter, particularly for butteroil contracts.

Cheese removals probably will slow as well, although continued purchases of some out-of-position cheese is possible. The nonfat dry milk surplus is expected to stay large but generally less than a year earlier. For all of 2003, the surplus of milkfat is expected to total about 1 percent of total milkfat marketings, while the excess of skim solids is projected to be about 5 percent of marketings.

International Demand Soft

International dairy markets would appear to be subject to a number of price-boosting factors, but weak demand has forestalled any real increases. Supplies from Oceania are quite limited because of last season's drought, and tight winter forage supplies may affect recovery in the new season. Supplies in Europe are generally smaller than a year earlier, and the euro's strength has required several adjustments to the export restitution rates. But, economic weakness in a number of key countries and Middle East developments have kept buyers out of the markets. Despite the weakness in the dollar, skim milk powder prices have stayed around \$1,700 per metric ton (about 77 cents per pound), with butter prices still generally below \$1,300 per ton (58 cents per pound).

International prices are not expected to increase much in coming months, although new season production prospects in Oceania will be critical. Skim milk powder prices cannot rise much before they are capped by U.S. domestic prices. Export demand is not projected to be strong enough to drain the U.S. excess. Some increase in butter prices is possible, but demand is expected to stay weak.

U.S. dairy imports during January-April were about the same as a year earlier, except for American cheese. American cheese imports were larger, as shipments of Cheddar within the tariff-rate quota (TRQ) were made earlier this year than last, and imports of other American cheeses outside of the TRQ rose. The United States is probably the foremost market in the world for Cheddar and similar cheeses. Some exporters seem to have adopted a strategy in recent years of being a constant presence in the U.S. cheese market, even at the cost of occasional shipments at a short-run loss.

After reaching the World Trade Organization (WTO) quantity limits on cheese and nonfat dry milk in early March, all of the recent DEIP contracts have involved butter. Bids were invited for contracts covering the equivalent of 10,000 tons of butter, and this quantity was fully utilized by early June. The WTO quantity limit would allow an additional 11,000 tons to be contracted before June 30, 2003, with a new annual limit coming in

July. However, contracts through September may be affected by the separate limit on butter export subsidy expenditures. Recent bonuses have been almost \$2,000 a ton. At this rate, contracts covering only about 6,500 tons could be accepted through September 30, 2003.

Despite the general lack of aggressiveness by international buyers, DEIP offerings thus far in 2003 have been taken fairly quickly, possibly because Oceanic supplies were not available. This may indicate that new allocations for nonfat dry milk and cheese will draw quick attention when available.

Dairy Prices Stagger Along

Wholesale prices of butter and cheese generally have traded in a fairly narrow range since spring 2002. Although there have been a number of price movements, none have been sustainable. None of the changes in production or use have been very dramatic, and the very large butter stocks and the sizable surplus of nonfat dry milk have provided ample cushion to absorb variations in market conditions.

Butter and cheese prices are expected to post small seasonal rises by this autumn but are not projected to really break out of recent patterns during the rest of the year. Supplies are not expected to shrink quickly enough to generate much basic price recovery given the projected modest growth in demand. However, market tightening might be enough to erode much of the excess stocks of milkfat by yearend.

A sizable surplus of skim solids is projected to persist through yearend, keeping prices of nonfat dry milk close to the support purchase price. The surplus is expected to begin shrinking during the second half of 2003. But, prices of separated skim solids, and probably whey products, will stay depressed until use of these products strengthens significantly, probably because of stronger demand from food processors. Commercial exports, if they develop, could help powder prices somewhat but are not likely to make a significant difference.

Lack of significant recovery in wholesale prices will leave farm milk prices low during the rest of 2003, even though second-half prices are expected

to average near a year earlier. For the year, farm milk prices are projected to average \$0.50 to \$1 per cwt lower than 2002 and about \$3.25 to \$3.75 lower than the 2001 record. Prices of milk for cheese and for butter-powder are expected to be close during the rest of the year, continuing the pattern from the first half.

The payment rate under the Milk Income Loss Contracts (MILC) has remained in a fairly narrow range of about \$1.40 to \$1.80 per cwt since the summer of 2002. This rate is expected to stay in this general range during the rest of 2003 and most of 2004.

Retail dairy prices declined fairly steadily between the autumn of 2001 and early spring. Thus far in 2003, retail dairy prices have run almost 2 percent below a year earlier. Early 2003 farm milk prices were down considerably from a year earlier, and this decline was only partially offset by a modest expansion in the farm-retail price spread. The declines in retail dairy prices are expected to end soon, but any increases during the rest of 2003 are likely to be small. For the year, retail dairy prices are projected to decline fractionally, following 2002's fractional increase.

Broiler Production Falls by 1.1 Percent In April

U.S. broiler production totaled 2.72 billion pounds in April, 1.1 percent lower than the previous year. The production decline in April was the result of 3-percent fewer birds slaughtered offset partially by a 1.6-percent increase in the average liveweight. This pattern is expected to continue for at least the next 2 months, with smaller numbers of birds going to slaughter compared with the previous year, but with higher liveweights.

Broiler production has fallen in 4 of the last 5 months (after an adjustment in production, March was unchanged compared with the previous year). Weekly egg sets and chicks placed are continuing to be lower than for the same week a year earlier. Broiler production in the first quarter is now estimated at 7.77 billion pounds, down 0.6 percent from a year earlier. Production for the second quarter is estimated to increase to 8.15 billion pounds, but this is still 1.0 percent below the previous year. Production is expected to be down somewhat in the third quarter, but increase slightly in the fourth quarter of 2003 in reaction to strengthening prices.

With first-quarter production lower, exports about the same, and stocks down, wholesale prices for a number of broiler products have begun to strengthen. Over the first 5 months of 2003, prices for boneless/skinless breast meat have averaged \$1.46 per pound, up 14 percent from the same

period in 2002. Prices for whole birds have also increased, with prices averaging 7 percent higher than the previous year. Leg-quarter prices, which more greatly reflect strength in the export markets, have lagged. Over the first 5 months of 2003 prices have averaged just over 21-cents-a-pound, about 5-percent lower than the previous year. However, prices are beginning to increase. In May, leg-quarter prices at 23.9 cents-a-pound were up 17 percent from May 2002. With broiler production forecast to be below year-earlier levels through the third quarter and smaller supplies of beef and pork available, broiler prices are expected to continue to gradually strengthen.

Broiler exports in the first quarter of 2003 totaled 1.2 billion pounds, almost exactly equal to the previous year. Exports are expected to be higher in the second quarter of 2003 than the previous year. However, that is primarily a function of the drop in exports in the second quarter of 2002 when Russia initially placed a ban on U.S. imports, rather than the result of any growing strength in exports. In the first quarter of 2003, exports to the four largest markets (Russia, Hong Kong, Mexico, and Korea) were all considerably lower. These declines were offset by strong growth in shipments to a wide number of other countries. While shipments to Hong Kong were lower, direct shipments to China in the first quarter of 2003 were up over 400 percent. Another large growth area has been exports to Cuba. In the first quarter broiler exports to Cuba were over 38 million pound's, compared with just over 1 million pounds in the same period in 2002.

Higher Prices To Dominate the Egg Market In 2003

Total U.S. egg production in 2003, table and hatching, is expected to total about 7.24 billion dozen, up fractionally from 2002. Egg production is expected to increase nearly 1 percent in 2004, due to expected improved returns. Table eggs are expected to account for 85 percent of total production in 2003, and are expected to stay at the same percentage in 2004. Hatching egg production in 2003 is expected to be nearly unchanged, but is expected to rise by nearly 2 percent in 2004. The rise in 2004 is due to higher expected broiler production. Table egg production is expected to rise by less than 1 percent.

Wholesale table egg prices are expected to average 75-78 cents a dozen in 2003, compared with 67 cents in 2002. The wholesale egg market is a relatively thin market, where small changes in supply can have a large price impact. Wholesale egg prices in 2004 are expected to average 74-80 cents a dozen as per capita supplies tighten. Retail egg prices in 2003 are expected to rise by about 9 percent. Retail egg prices declined after reaching a peak in 1996, but began to move upward in 2001. The price spread between wholesale and retail egg prices is expected to narrow in 2004.

Per capita egg consumption in 2003 is expected to decrease slightly to 252 eggs, about two eggs less per person than the previous year. Since 1996, U.S. egg consumption has increased by 7 percent or about 17 eggs per person. This is due in large part to increasing demand for breaking eggs by the commercial baking, confectionery, and fast food industries. This trend was clearly indicated by the amount of eggs going to the breaking market, which increased from 28 percent of total table egg production in 1996 to an expected 31 percent in 2003, and 32 percent forecast in 2004.

U.S. egg exports in 2003 are expected to reach 169 million dozen, down 2-3 percent from the previous year and representing 2.3 percent of total U.S. egg production. Shell eggs (for human consumption and hatching) accounted for nearly 55 percent of total U.S. exports. The remaining 45 percent were exported as processed albumen and yolk in dried or liquid forms. Five countries: Canada, Belgium, Hong Kong, Japan, and Mexico accounted for 77 percent of all U.S. egg exports in 2002. The largest export market is Canada, receiving over one-quarter of all U.S. egg exports. U.S. egg exports to Canada were twice as large as to Hong Kong, Belgium, Japan, or Mexico. Total U.S. egg exports are expected to increase about 2-3 percent in 2004.

Keithly Jones and Carlos Arnade

The interagency committee on estimating commodities (ICEC) using analysis and expert judgement forecasts cattle and beef market activity. The U.S. Department of Agriculture (USDA) analysts use a variety of methods to forecast and project market activity for cattle. However, the importance of biological factors and weather conditions make fitting cattle industry relationships comfortably into a stylized modeling framework difficult. In general, there are two approaches to modeling the cattle industry. The first is to have biological factors determine the structure of the model and then let economic decisions influence key variables in the model. The Economic Research Service (ERS) baseline, which focuses on 10-year projections, tends to follow this approach. The second approach is to formulate an economic model, constrained by biological factors. Current market conditions, weather, and other disturbances influence the short-term forecast. Other specialized models that include the livestock sector are used to analyze policy changes, world markets, and supply responses. These include the Global Trade Analysis Project (GTAP), Food and Agricultural Policy Simulator (FAPSIM) and World Trade Organization (WTO) models.

The GTAP model has a global trade/applied general equilibrium emphasis and is used to simulate the effects of multiple regional trade agreements throughout the world. The GTAP model uses a 10-region/country aggregation and a 6-sector aggregation. GTAP incorporates no special treatment of the biological nature of cattle production, but includes a live animal sector with input demands for primary (land, labor, and capital), and intermediate (purchased feed and non-agricultural inputs) production factors. In the GTAP model, a separate processing sector is defined, which purchases animals as an intermediate input for meat production.

The FAPSIM model is an annual dynamic econometric-based model of U.S. agriculture that reflects economic theory and institutional knowledge of the sector. The model contains over 700 equations that describe supply, use, prices, and policies such as commodity loan rates and marketing loans. The FAPSIM model contains

submodels for cattle, hogs, broilers, turkeys, eggs, and dairy along with other feed grains and field crops. FAPSIM was originally constructed to be used as a tool for U.S. agricultural policy analysis. The model reflects many programs that influence the market for commodities, for example, the Federal milk marketing orders and dairy price supports and various crop programs. FAPSIM has also been used to project future agricultural prices and quantities. This information has served as input into the department-wide process that establishes the official USDA baseline.

The ERS/Penn State WTO model is a partial equilibrium global agricultural trade model designed to analyze alternative agricultural trade policy options. There are 21 commodities covered in the model: four livestock products (beef and veal, pork, poultry, and raw milk) and five processed dairy products (butter, cheese, nonfat dry milk, fluid milk, and other dairy products) are the animal products among the commodities. A wide range of trade policies are incorporated in the WTO model and include ad valorem import and export taxes and subsidies, tariff-rate quotas (TRQs), and producer and consumer subsidies.

The USDA agricultural baseline is a 10-year, year-by-year projection of domestic and international market balance sheets for the major crop and livestock commodities. Significant resources and the bulk of the analytical work underlying the baseline are provided by ERS. The Interagency Commodity Estimates Committee (ICEC—chaired by WAOB, with members from ERS, AMS, FSA, FAS and other USDA agencies such as NASS and GIPSA as needed) is used to coordinate the review and clearance. Projections cover agricultural commodities, agricultural trade, and aggregate indicators of the sector, such as farm income and food prices. In so doing, the baseline identifies major forces and uncertainties affecting the future of agricultural markets; prospects for global long-term economic growth, consumption, and trade; and future price trends, trade flows, and U.S. exports of major farm commodities. The baseline is also used to develop the President's budget cost estimates, facilitate Mid-Session budget reviews, and analyze alternative agricultural policy scenarios. The baseline livestock model is a component of the larger model.

For specific questions about livestock markets, models separate from the baseline model are used to examine, for instance, influences of concentration on prices or how management practices affect costs of production. These models may hypothesize cause and effect, but really only determine correlations. They are not normally used for forecasting except for scenario-building for policy analysis. Changing structural conditions in the cattle and beef industry have the potential to affect markets. However, market forecasts, such as those for the USDA baseline, usually consider current market structure to be static because future market structure is unknown. Effects of changes in past market structure are implicitly understood to be contained in the estimates of the parameters for other variables.

ERS strives to use the best possible approaches to project livestock prices and farm income. The livestock model currently in use was originally estimated with 1960-88 data, data that may not capture the effects of factors such as declining numbers of farms, concentration of processors, marketing arrangements (production contracts, alliances, joint ventures), and changes in consumer preferences that have influence the market since 1990. The model was re-estimated to determine if this was so. Good housekeeping requires that models be periodically updated and re-estimated.

ERS recently initiated an exercise to review the baseline process, to streamline it, and to provide the public with timely quality information. A review of the livestock model is part of this exercise. Using data through 2001, the commercial beef production portion of the current model has been re-estimated. The next step is to incorporate the new parameters into the next version of the baseline model. Re-estimation of the full livestock model is planned.

The re-estimated parameters for commercial beef production track well with the old model (see figure), providing some indication that no significant change has occurred in the livestock sector since it was estimated in the 1980s, given its current format. Further enhancements of the baseline livestock model are planned including formulating an alternative model that relies less on

biological identities and more on behavioral equations.

The new model consists of several components. Following suggestions from the literature of Eales and Unnevehr (1993), and Holt and Goodwin (1997), the demand component is specified as a system of price-dependent equations. An inverse demand system of meat demands have been estimated and an equation has been developed which uses quantity and expenditure data for each of the major livestock species (cattle, hogs, broilers, and turkey) to convert forecasted consumption shares into the price determined by the demand side of the model.

On the supply side, we have included the ranchers' decision equations, feedlot and slaughter equations, and a markup equation. Ranchers' decisions are dominated by biology and forage conditions, so we estimated a heifer replacement equation, a culling equation, and a calf crop born equation, following a dynamic structure similar to that used by Buhr and Kim (1997). Using specifications by Nerlove and Fornari (1998), the feedlot component consists of equations that describe placements and average slaughter weights. Both the placement and slaughter weight equations include various cattle and feed prices and herd size. Finally, there is a price-dependent slaughter supply equation, which can be viewed as a marginal cost condition. That is, prices are a function of beef production and various feedlot input prices.

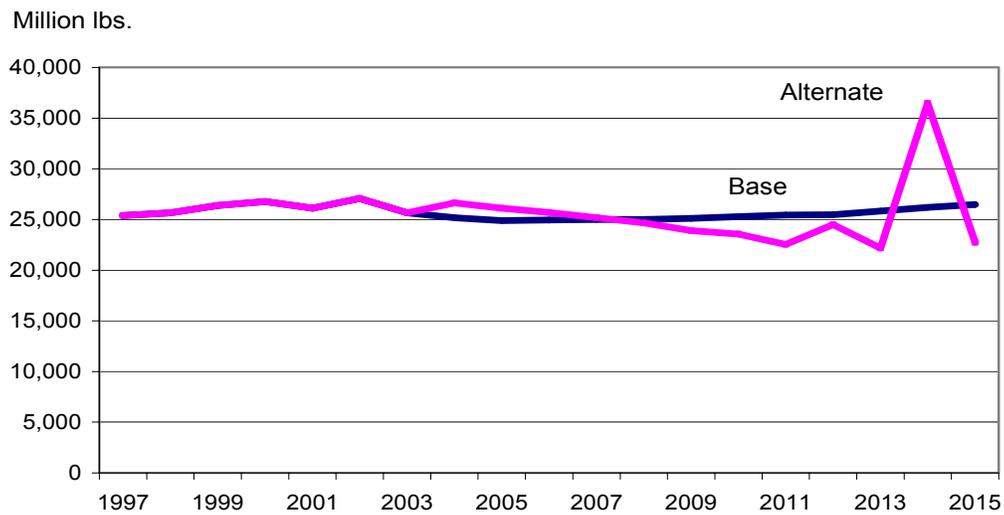
To clear the market, the demand prices are written as a functions of the slaughter price, and two input prices used in the food processing industry, net imports, net stock changes, and trends. When markets clear, the demand prices will equal the supply price. Net imports and other conditions can be added to this market-clearing equation, thus issues raised by the General Accounting Office (GAO), (the lack of a market clearing mechanism in the current baseline model, the limited role of trade in the model, and market structure features) can be addressed by this model format.

Several research projects contribute to our future modeling efforts. One deals with the breeding herd replacement decision and the cattle cycle. Additional research on slaughter weights,

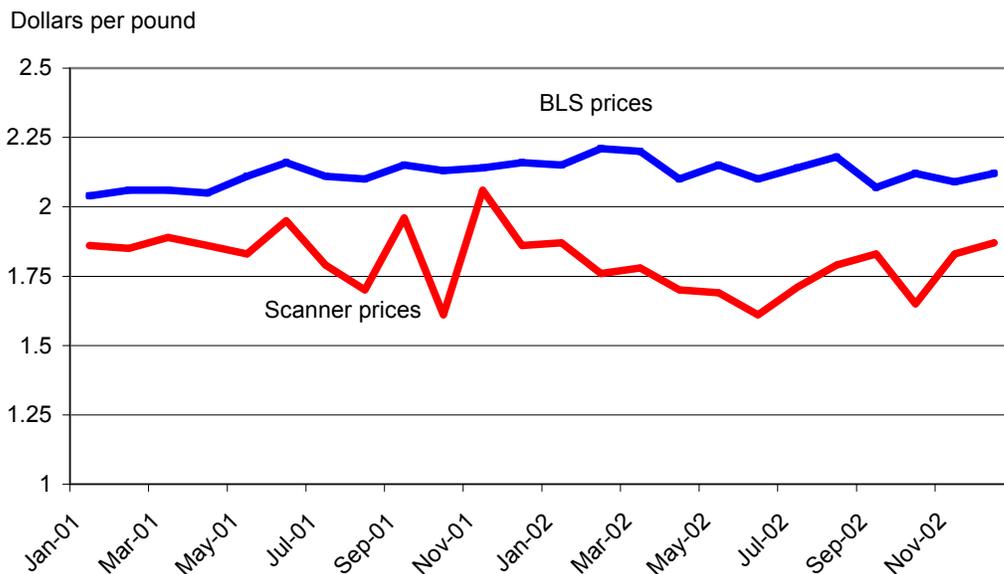
conversion factors, and new animal products will be used to better explain the relationship between livestock numbers and meat supplies. New research may help to illuminate the demand for competitive meat products. Also, new retail price data indicates that retail meat prices may be lower and more variable than shown in the consumer price index (CPI) (see figure). A forthcoming ERS publication focuses on the extent, spread, and impact of contracting on agriculture, particularly

livestock. And, we are seeking development of econometric models that incorporate structural dynamics to forecast prices both for the baseline and for policy analysis models. In addition, to facilitate the general understanding of forces that shape the animal products market, two new briefing rooms soon will be unveiled on the ERS website highlighting livestock production and marketing issues.

Commercial beef production



Scanner prices tend to be lower and more variable than BLS prices (Ground chuck)



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Related Article

The discovery of bovine spongiform encephalopathy (BSE) <http://www.usda.gov/news/releases/2003/05/bg0166.htm> in Canada resulted in the United States placing a ban on imports of ruminant animals and products from that country as of May 20. When the ban will be lifted is uncertain. The United States imports a substantial amount of cattle and beef from Canada.

Data

Retail Price Reporting for Meat

<http://www.ers.usda.gov/Data/Meatscanner/> A new ERS database contains monthly average retail prices for selected cuts of red meat and poultry, based on electronic supermarket scanner data. While not based on a random sample, the raw data underlying the database are from supermarkets across the United States that account for approximately 20 percent of U.S. supermarket sales. [Leland Southard](#), (202) 694-5187.

Web Sites

Cattle, <http://www.ers.usda.gov/briefing/cattle/>

Hogs, <http://www.ers.usda.gov/briefing/hogs/>

Poultry and Eggs, <http://www.ers.usda.gov/briefing/poultry/>

Dairy, <http://www.ers.usda.gov/briefing/dairy/>

WASDE, <http://www.usda.gov/oce/waob/wasde/latest.pdf>

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Red meat and poultry forecasts

	2002					2003					2004	
	I	II	III	IV	Annual	I	II	III	IV	Annual	I	Annual
Production, million lb												
Beef	6,377	6,833	7,097	6,783	27,090	6,287	6,850	6,950	6,200	26,287	6,000	25,650
Pork	4,780	4,797	4,832	5,255	19,664	4,889	4,725	4,710	5,190	19,514	4,775	19,300
Lamb and mutton	58	54	51	56	219	49	50	50	52	201	50	198
Broilers	7,819	8,234	8,251	7,936	32,240	7,770	8,150	8,200	8,100	32,220	7,900	32,725
Turkeys	1,378	1,441	1,412	1,482	5,713	1,379	1,425	1,400	1,475	5,679	1,375	5,775
Total red meat & poultry	20,589	21,543	21,837	21,700	85,669	20,550	21,376	21,485	21,189	84,600	20,280	84,365
Table eggs, mil. doz.	1,506	1,518	1,551	1,573	6,148	1,511	1,520	1,555	1,580	6,166	1,520	6,205
Per capita consumption, retail lb 1/												
Beef	16.2	17.5	17.3	16.6	67.6	16.2	17.1	17.6	14.8	65.7	15.2	63.1
Pork	12.3	12.6	12.7	13.8	51.5	12.6	12.3	12.3	13.4	50.6	12.2	49.6
Lamb and mutton	0.3	0.3	0.3	0.3	1.2	0.3	0.3	0.3	0.3	1.1	0.3	1.1
Broilers	19.2	20.8	20.6	19.9	80.5	19.6	20.1	20.2	19.6	79.5	19.4	79.4
Turkeys	3.5	3.9	4.4	5.9	17.7	3.6	4.0	4.3	5.8	17.7	3.7	17.8
Total red meat & poultry	52.1	55.6	55.8	57.0	220.5	52.7	54.4	55.1	54.3	216.5	51.3	212.9
Eggs, number	62.4	62.6	64.0	64.6	253.7	61.9	62.2	63.5	64.4	252.0	61.6	250.9
Market prices												
Choice steers, Neb., \$/cwt	70.19	65.58	63.29	69.10	67.04	77.82	79-80	73-77	74-80	76-79	76-82	77-84
Feeder steers, Ok City, \$/cwt	81.24	76.96	78.87	83.08	80.04	78.38	82-83	86-90	88-94	83-87	85-91	86-92
Boning utility cows, S. Falls, \$/cwt	41.56	42.28	37.69	35.69	39.23	40.32	48-49	45-47	43-47	44-46	43-47	45-48
Choice slaughter lambs, San Angelo, \$/cwt	66.62	66.00	74.60	82.02	72.31	91.92	90-91	81-85	79-85	85-89	79-85	79-86
Barrows & gilts, N. base, i.e. \$/cwt	39.43	35.03	33.86	31.34	34.92	35.38	41-42	40-42	36-40	38-40	39-43	41-44
Broilers, 12 City, cents/lb	56.00	56.10	56.40	53.70	55.60	60.30	59-60	59-63	58-62	59-61	57-61	58-63
Turkeys, Eastern, cents/lb	60.00	62.90	66.70	68.20	64.50	61.10	61-62	64-68	69-75	64-66	59-63	64-69
Eggs, New York, cents/doz.	69.10	58.40	65.30	75.40	67.10	77.20	72-73	73-77	77-83	75-78	74-80	74-80
U.S. trade, million lb												
Beef & veal exports	572	601	662	612	2,447	585	630	630	610	2,455	600	2,550
Beef & veal imports	737	934	839	708	3,218	810	870	850	735	3,265	865	3,425
Lamb and mutton imports	48	44	32	38	162	40	43	36	42	161	44	167
Pork exports	382	416	401	415	1,614	413	425	400	430	1,668	405	1,695
Pork imports	235	262	275	299	1,071	289	285	285	300	1,159	300	1,200
Broiler exports	1,204	1,119	1,257	1,219	4,800	1,200	1,200	1,250	1,300	4,950	1,250	5,200
Turkey exports	129	107	100	103	439	103	110	105	120	438	115	465

1/ Per capita meat and egg consumption data are revised, incorporating a new population series from the Commerce Department's Bureau of Economic Analysis based on the 2000 Census.

ECONOMIC INDICATOR FORECASTS ^{1/}

	2002					2003					2004	
	I	II	III	IV	Annual	I	II	III	IV	Annual	I	Annual
GDP, chain wtd (bil. 1996 dol.)	9,363	9,388	9,465	9,503	9,440	9,556	9,599	9,679	9,759	9,651	9,855	9,994
CPI-U, annual rate (pct.)	1.4	3.4	1.9	2.4	2.2	3.9	2.0	1.8	2.1	2.4	2.2	2.3
Unemployment (pct.)	5.6	5.9	5.7	5.9	5.8	5.8	6.0	6.0	5.9	5.9	5.8	5.7
Interest (pct.)												
3-month Treasury bill	1.7	1.7	1.6	1.3	1.6	1.2	1.2	1.2	1.3	1.2	1.4	2.1
10-year Treasury bond yield	5.1	5.1	4.3	4.0	4.6	3.9	4.0	4.2	4.3	4.1	4.5	4.7

^{1/} Source: Survey of Professional Forecasters, Philadelphia Federal Reserve Bank, May 2003.

DAIRY FORECASTS

	2002					2003					2004	
	I	II	III	IV	Annual	I	II	III	IV	Annual	I	Annual
Milk cows (thous.)	9,112	9,149	9,153	9,148	9,141	9,154	9,130	9,090	9,060	9,110	9,010	8,950
Milk per cow (pounds)	4,653	4,811	4,566	4,543	18,573	4,690	4,850	4,610	4,640	18,790	4,860	19,305
Milk production (bil. pounds)	42.4	44.0	41.8	41.6	169.8	42.9	44.3	41.9	42.0	171.2	43.8	172.8
Commercial use (bil. pounds)												
milkfat basis	40.7	42.2	43.8	43.9	170.5	41.2	43.4	44.1	44.9	173.6	42.7	177.7
skim solids basis	39.3	40.6	42.3	41.2	163.4	40.2	41.5	42.8	42.2	166.7	41.5	171.8
Net removals (bil. pounds)												
milkfat basis	0.1	0.1	0.1	0.1	0.3	0.4	0.6	0.5	0.1	1.6	0.4	1.2
skim solids basis	2.7	3.5	2.1	1.5	9.8	3.1	2.9	1.3	1.2	8.5	1.7	5.1
Prices (dol./cwt)												
All milk ^{1/}	13.10	12.03	11.33	11.97	12.11	11.37	10.90	10.90	11.70	11.20	11.15	11.15
							-11.10	-11.40	-12.50	-11.60	-12.15	-12.15
Class III	11.38	10.59	9.59	10.10	10.42	9.52	9.55	9.80	10.20	9.75	9.50	9.85
							-9.75	-10.30	-11.00	-10.15	-10.50	-10.85
Class IV	11.08	10.73	10.36	10.52	10.81	9.89	9.60	9.75	9.90	9.75	9.40	9.60
							-9.90	-10.35	-10.80	-10.25	-10.50	-10.70

^{1/} Simple averages of monthly prices. May not match reported annual averages.